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Neutrophilic Erythrophagocytosis and Reticulocytopenia: A Rare Manifestation of Cold Autoimmune Hemolytic Anemia

Nötrofilik Eritrofagositoz ve Retikülositopeni: Soğuk Otoimmün Hemolitik Aneminin Nadir Bir Bulgusu

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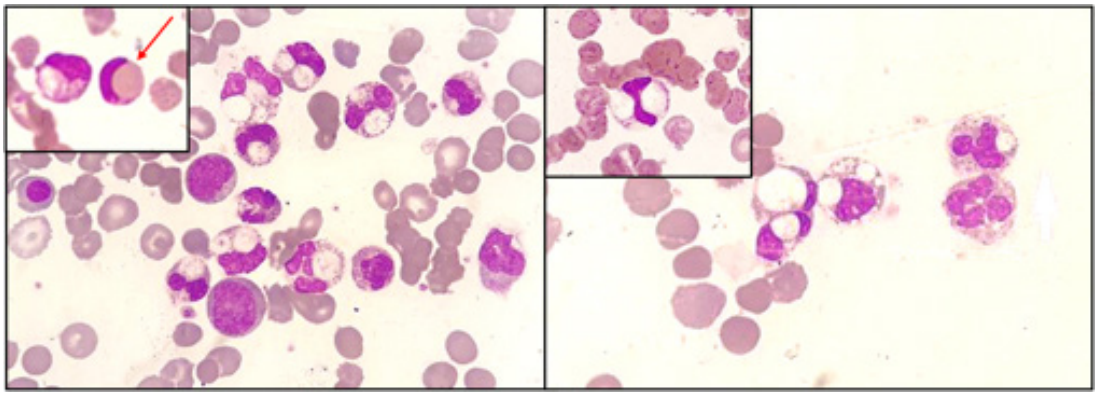

Figure 1. Representative images of the peripheral blood smear stained with May-Grunwald-Giemsa stain and showing marked neutrophilic red blood cell (RBC) phagocytosis together with the presence of nucleated RBCs and spherocytes. Intact RBC and two phagocytic vacuoles are seen in the two insets (original magnification 100^{x}).

A 26-year-old man presented with a history of fatigue, multiple blood transfusions, intermittent hematuria, and recent-onset jaundice. Physical examination was notable for pallor and splenomegaly. A complete blood count revealed hemoglobin of 5.5 g/dL, leukocyte count of $16x10^{9}$/L, platelet count of $19^{8}x10^{9}$/L, and corrected reticulocyte count of 1.53%. The peripheral smear findings are depicted in Figure 1. The smear showed macrocytes, a few spherocytes, and 4 or 5 nucleated red blood cells (RBCs) per 100 white blood cells. The presence of neutrophilic erythrophagocytosis was striking. Serum lactate dehydrogenase level was markedly elevated (2622 IU/L; normal range: 100-248 IU/L) and unconjugated hyperbilirubinemia (3.1 mg/dL) was also observed. Direct and indirect antiglobulin tests were strongly positive and serological evaluation using monospecific sera confirmed the presence of immunoglobulin M antibodies (1:256). Testing for Donath-Landsteiner antibodies was negative. The patient tested negative for human immunodeficiency virus, hepatitis B virus, and hepatitis C virus or any lymphomatous disorder. With a diagnosis of idiopathic cold autoimmune hemolytic anemia (AIHA), the patient was administered corticosteroids, to which he responded well.

The presence of spherocytes, polychromatophils, and RBC agglutination are subtle indicators of AIHA in peripheral blood smears; however, erythrophagocytosis and neutrophil-

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erythrocyte rosettes are rare. They have been reported previously in cases of paroxysmal cold hemoglobinuria and cold agglutinin disease and occasionally in cases of warm AIHA [1,2]. Erythrophagocytosis possibly reflects high antibody titers, as this phenomenon is strongly dependent on the degree of opsonization of RBCs by antibodies. Another striking feature in the present case was the presence of relative reticulocytopenia, which has been reported in up to 25%-39% cases of AIHA [3]. Awareness of these manifestations of AIHA will facilitate more timely intervention for these patients.

Keywords: Neutrophilic erythropagocytosis, Autoimmune hemolytic anemia, Reticulocytopenia

Anahtar Sözcükler: Nötrofilik eritrofagositoz, Otoimmün hemolitik anemi, Retikülositopeni

Ethics

Informed Consent: Obtained.

Authorship Contributions

Surgical and Medical Practices: R.G., P.G., S.B., M.K.S.; Concept: R.G.; Design: R.G.; Data Collection or Processing: P.G.; Analysis or Interpretation: M.K.S.; Literature Search: S.B.; Writing: R.G.

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